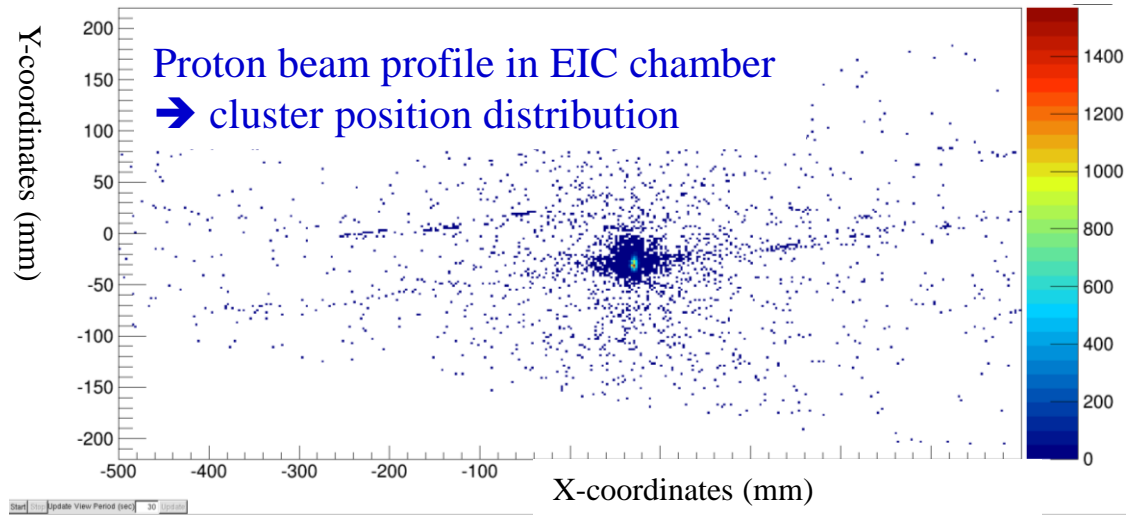


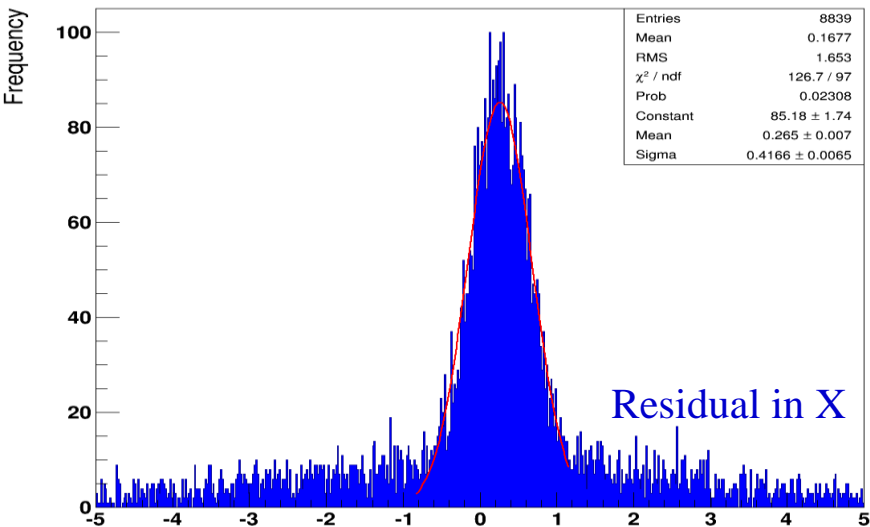
Update on EIC GEM prototype residuals and other issues

Kondo Gnanvo

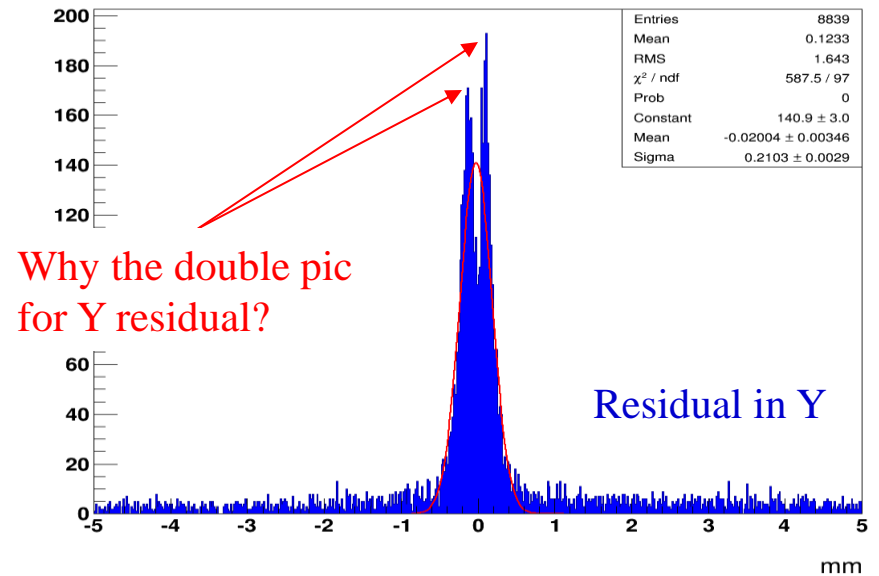
Residuals of the EIC-SoLID Prototype with 120 GeV Proton Beam



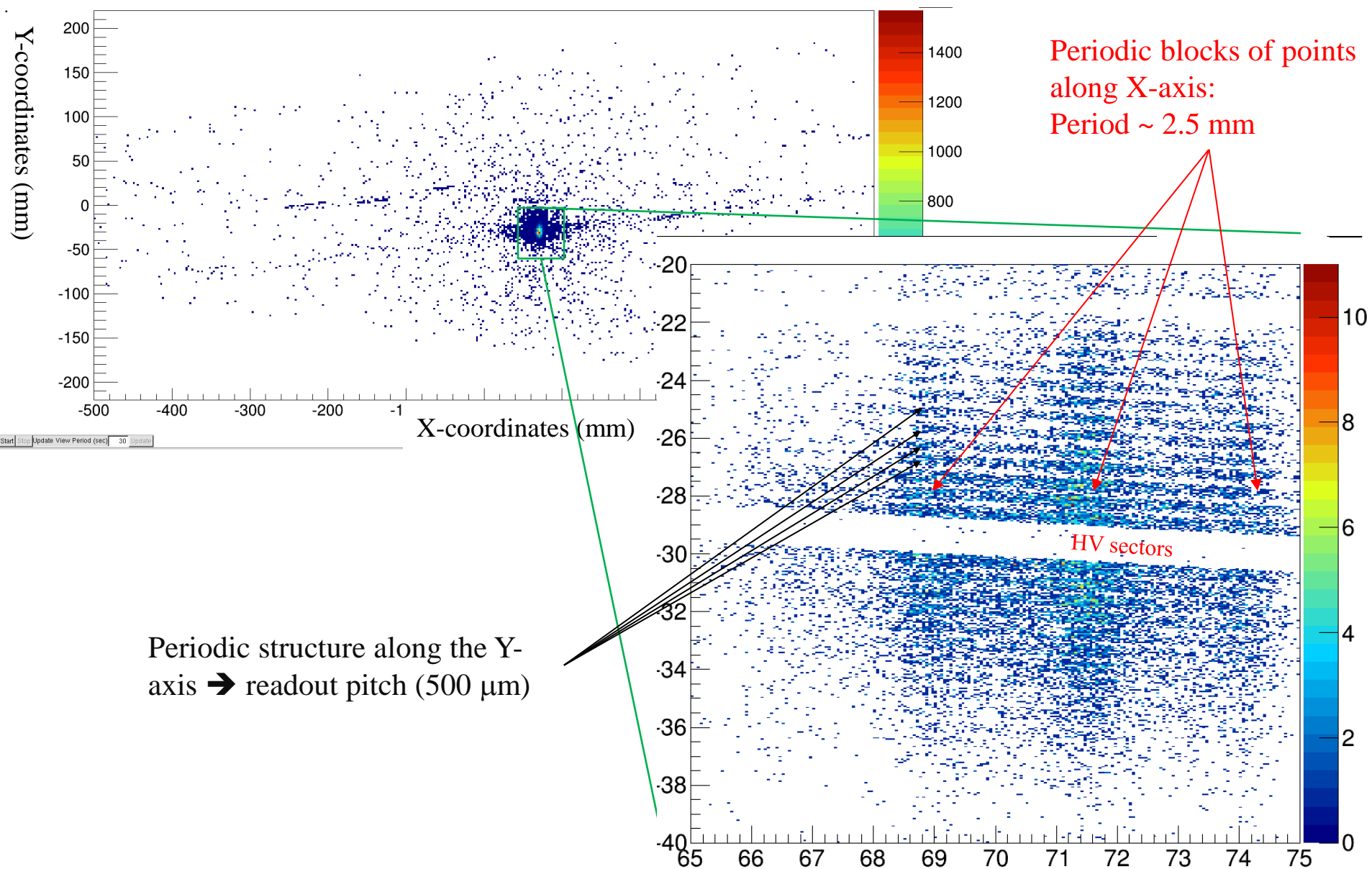
EIC1XResiduals



EIC1YResiduals



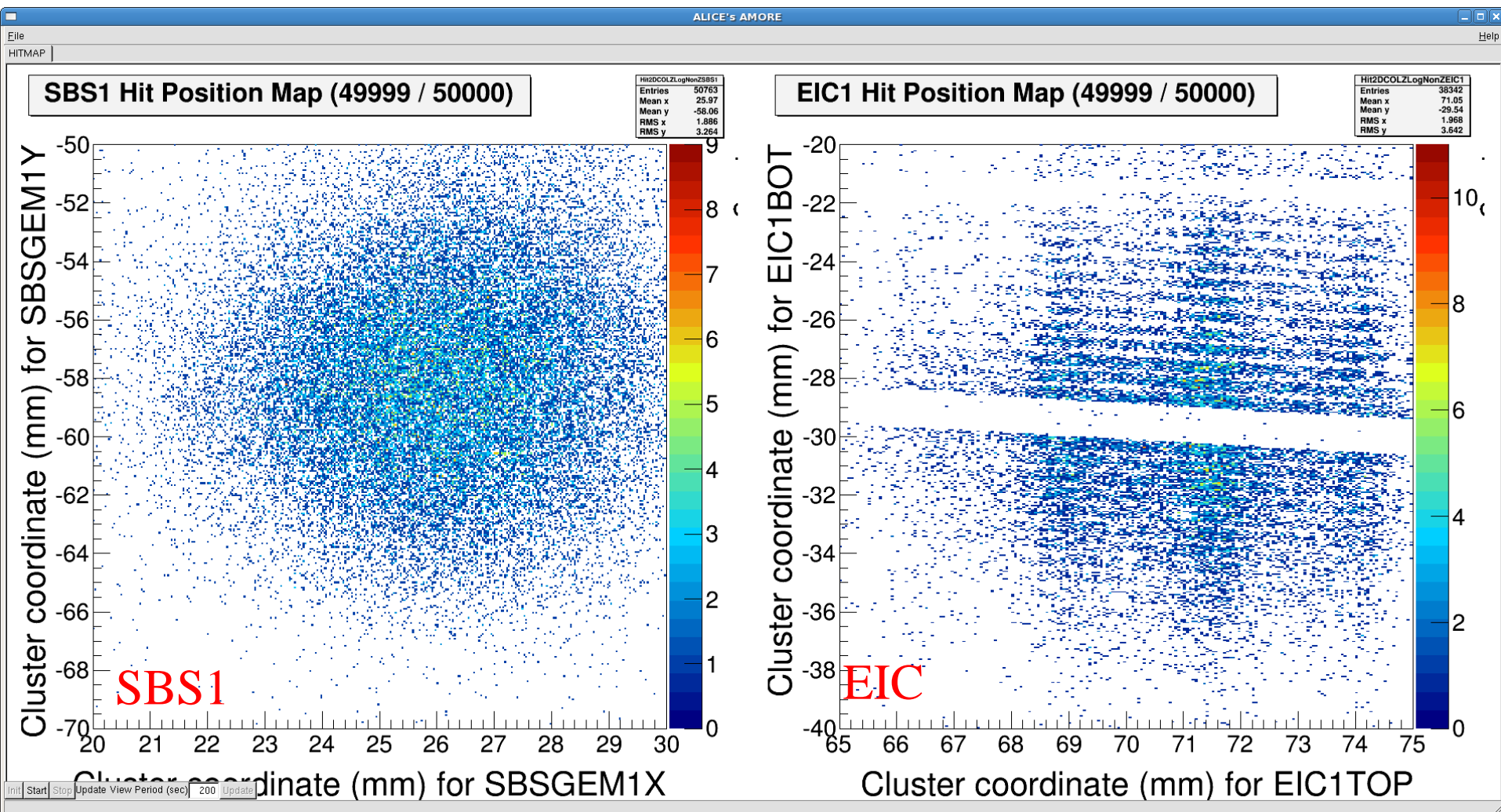
Zoom on beam profile (cluster position distribution) in EIC-SoLID Proto



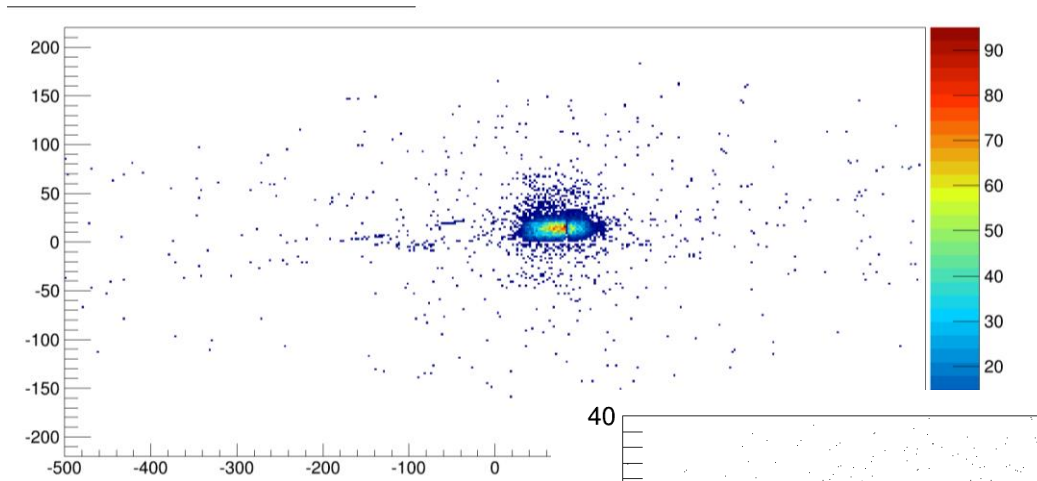
Comparing the profile in EIC-SoLID Proto and SBS1 Proto

the periodic structure in Y is visible in SBS chamber

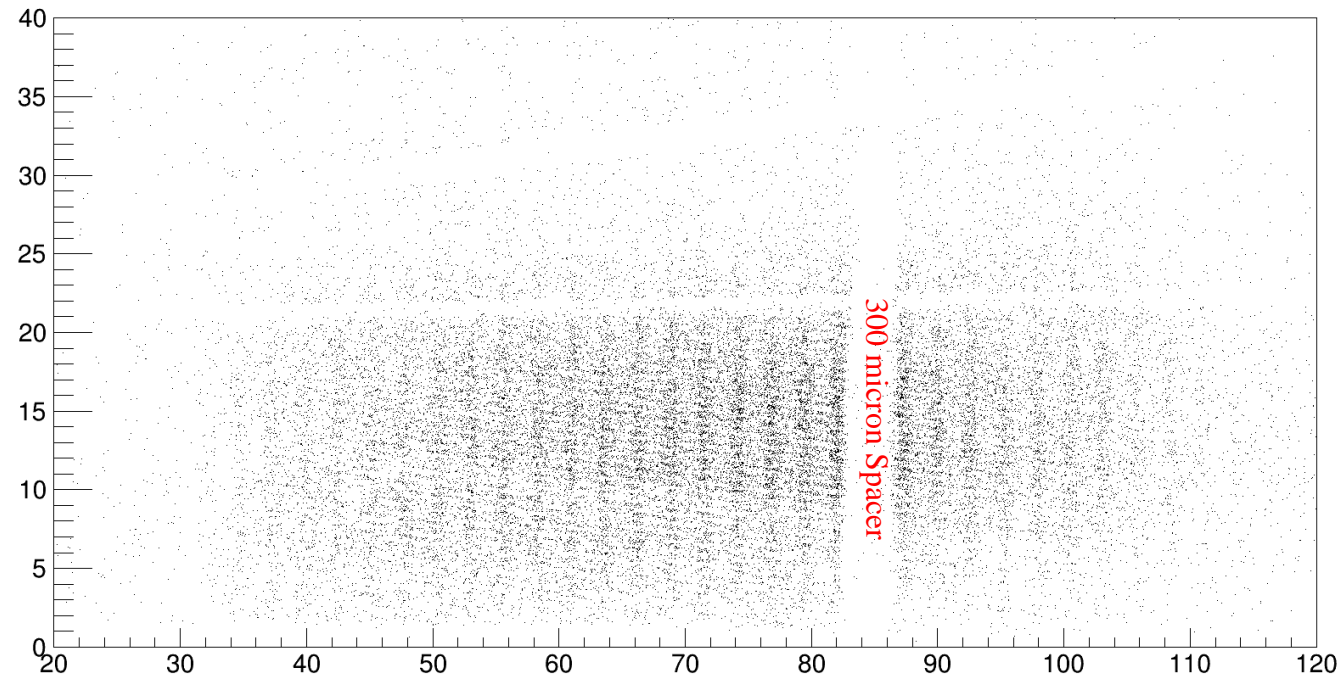
One could guest the structure in X



Same thing with the wider 32 GeV Hadron beam



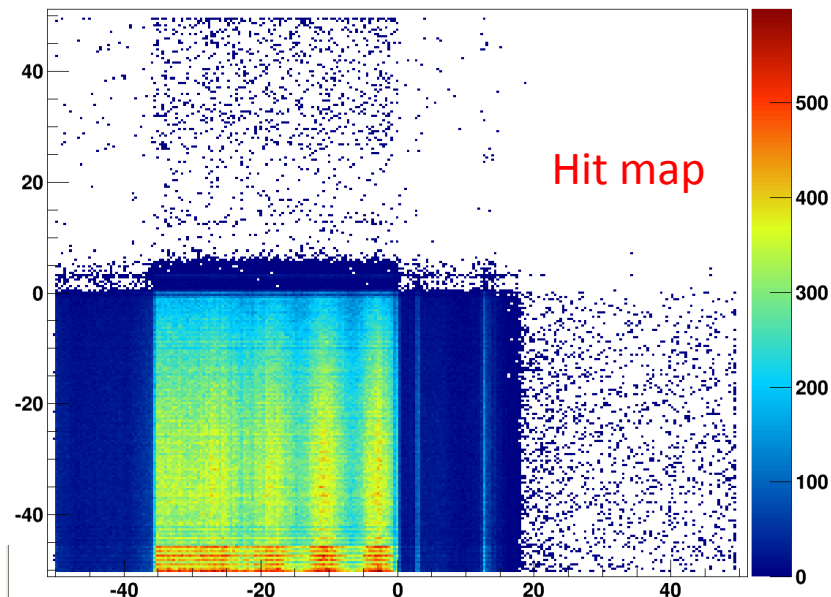
- Again, both periodic structure in X and Y



10 cm x 10 cm GEM on X-ray box in GDD lab @ CERN (August 2013)

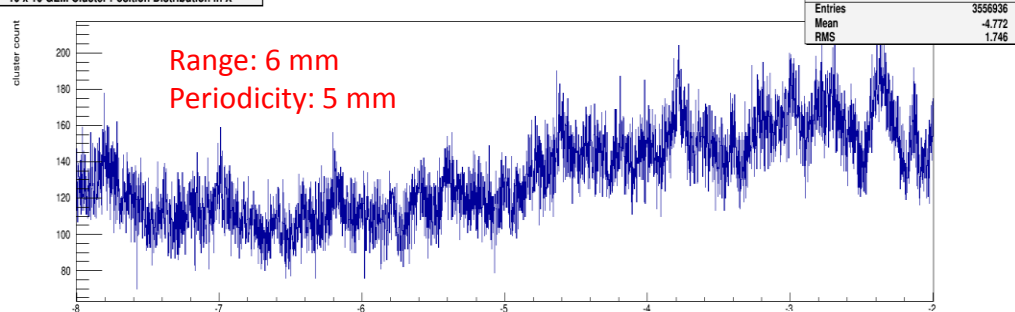
- COMPASS readout (0.4 mm pitch) **on 10x10 GEM**
- High statistic x ray particle \rightarrow fine binning for hit map, dist histograms
- Square shape of hit map \rightarrow copper shield in front of the x-ray
- 2 structures in X-strips (80 μm) \rightarrow periodicity: 2.5 and 0.4 mm
- Regular structure in Y-strips (340 μm) \rightarrow periodicity: 0.4 mm

Hit Cluster Position in Y (mm)

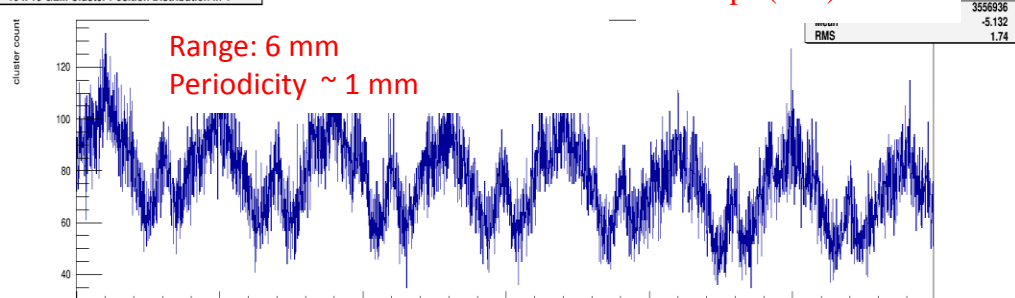


10 x 10 cm² Tracker GEM1 average adc Map [TriggerNo# 4999999 / Event# 3556936]

10 x 10 GEM Cluster Position Distribution in X

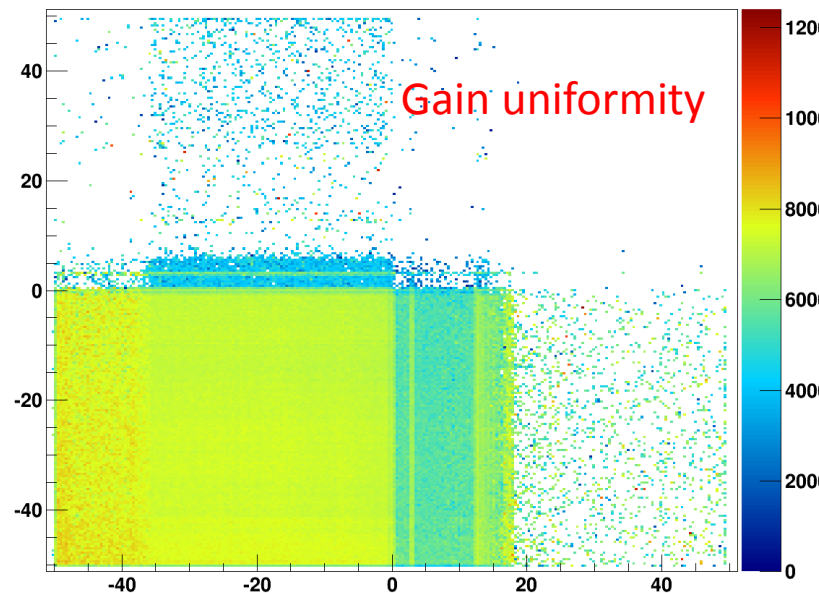


10 x 10 GEM Cluster Position Distribution in Y



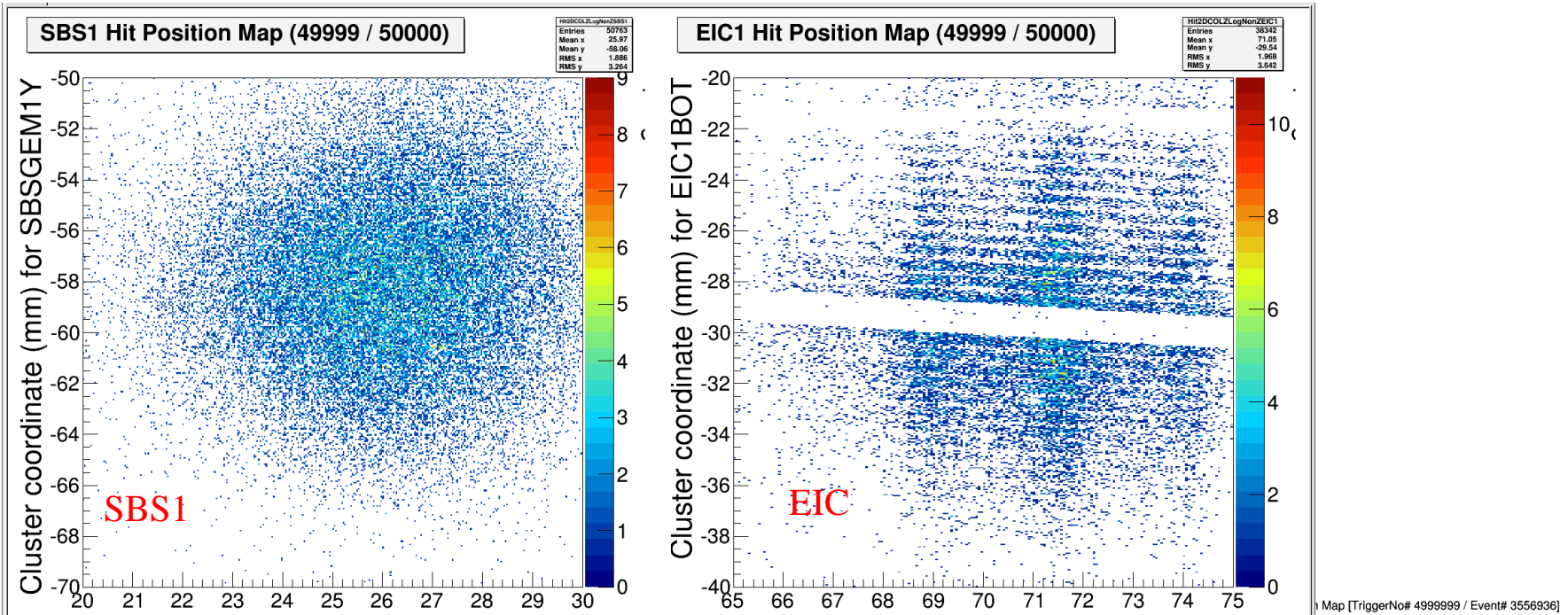
X-strips (mm)

Y-strips (mm)

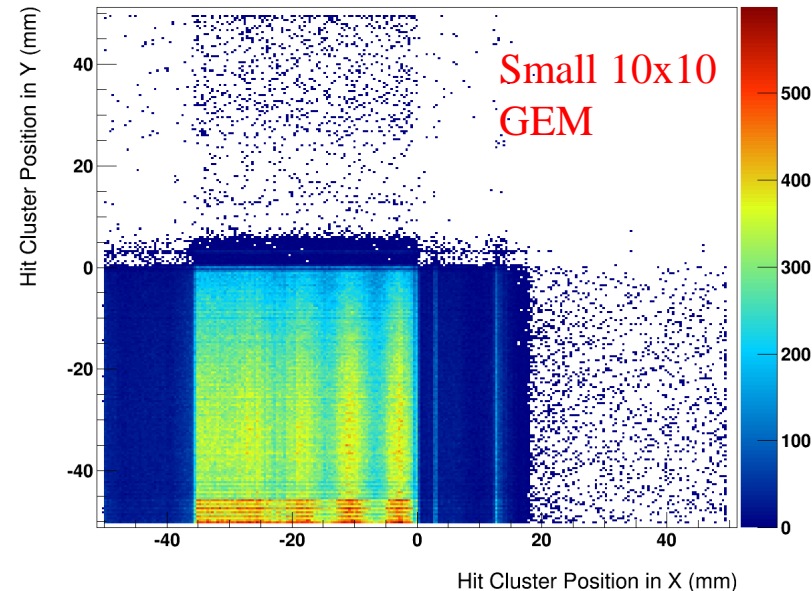


hit position in X (mm)

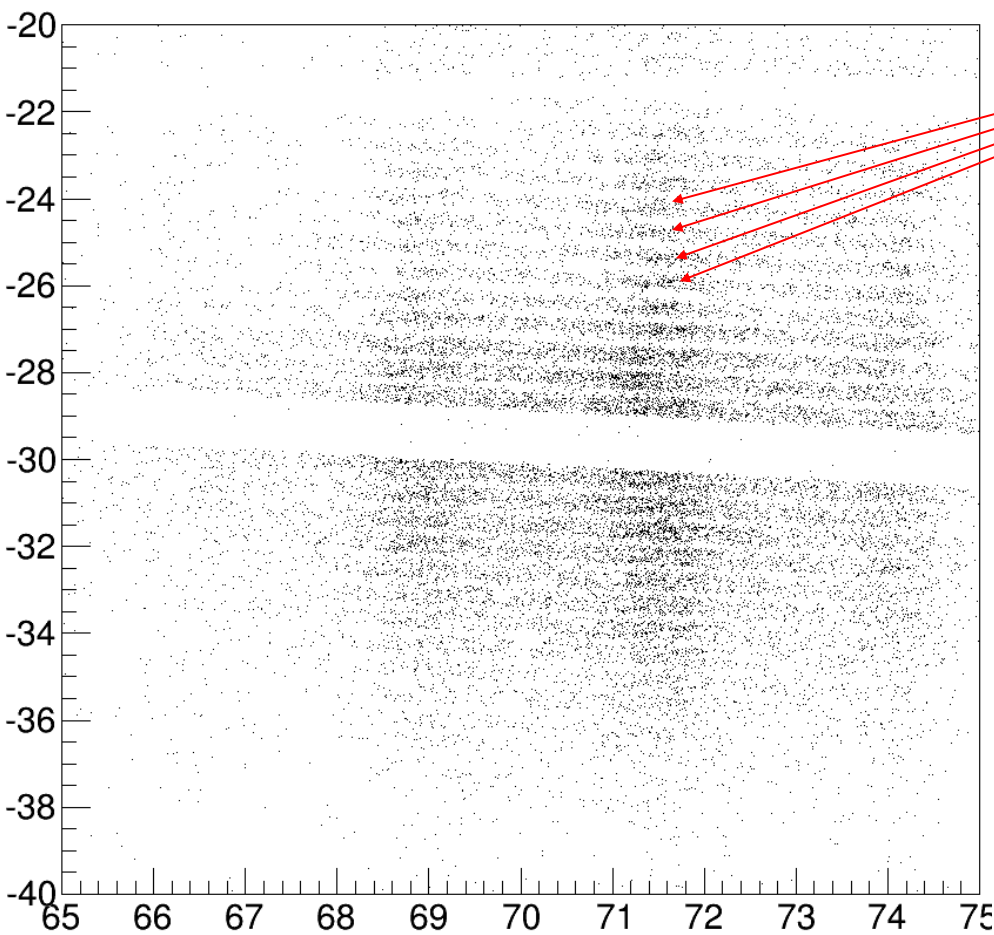
Comparing the profile in EIC-SoLID, SBS1 and 10 cm x 10 cm GEM



- Similar 2.5 mm periodic structure in top strips of EIC and small GEMs
- Actually the similar structure could be seen in SBS if looked carefully (I am going to plot it with different cuts)
- Might just be explained by apv noise structure periodicity



Spatial resolution of the EIC-SoLID Prototype with 120 Gev Proton Beam



Could this effect explain
the double peak?

